

# NUCLEAR DIVISION NEWS

UNION  
CARBIDE

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 2 — No. 6

OAK RIDGE, TENNESSEE

Thursday, March 25, 1971

## Carbide Expands Mobile Plant

In order to meet the increasing demand for molecular sieve catalysts, Union Carbide Corporation will build a large finished catalyst production facility at its Mobile, Ala., manufacturing site, it was announced recently by Birny Mason, Jr., chairman of the board. The new unit, for which engineering and design work is now underway, is scheduled to begin operations in 1972.

Catalysts are materials which accelerate or control chemical reactions without being consumed in the reaction. They are widely used by the petroleum industry in the production of gasoline, premium motor fuel, high-octane components for use in gasoline, and in treating refinery streams to remove pollutants, catalysts poisons, and corrosive compounds. In the chemical industry catalysts are employed to help produce a host of chemicals.

### Consolidation, Expansion

Catalysts, made entirely of molecular sieves or which contain molecular sieve material, markedly improve many refining processes, such as hydrocracking to produce gasoline, jet fuel, or fuel oil, and isomerization to improve the octane rating of gasolines.

The new facility will permit Union Carbide to consolidate and expand its catalyst production which has been centered at the original molecular sieve plant in Tonawanda, N. Y., or subcontracted to outside catalyst producers.

In addition to its current line of molecular sieve catalysts, Union Carbide is testing and developing entirely new catalysts for other chemical and petroleum applications.

Molecular sieves, invented by

Union Carbide in the 1950's, are synthetic crystalline zeolite in powdered or pelleted form. Because of their precisely controlled pore openings, they can separate molecules by molecular size, and are widely used in drying and purifying applications. Catalysts using molecular sieves were initially developed by Union Carbide in the 1960's.

The new unit marks the fourth expansion of the Mobile molecular sieve facility since it began operations in 1965. All types of molecular sieve products, including material sold to other makers of catalysts, are produced at this installation.

## Auditor Reeve Speaks On Internal Auditing

John T. Reeve, manager of auditing for Union Carbide Corporation's Nuclear Division, was one of the principal speakers at the annual conference on international auditing held March 17, in Milwaukee, Wisc.



Reeve

Reeve spoke on "Communication as Applied to Operational Auditing." In addition, he conducted two workshops on operational auditing.

The conference, sponsored by the Milwaukee Chapter of the Institute of Internal Auditors, centered around the theme of progress demands effective communication.

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**AEC COMMISSIONER SPEAKS**—C. E. Larson, U. S. Atomic Energy Commissioner, and former president of the Nuclear Division, was banquet speaker at the Industrial Research Institute meeting recently in Oak Ridge. Some 70 representatives from industry all over the U. S. attended the two day special meeting. From left, E. O. Wende, deputy director of the Oak Ridge Operations of AEC; Wilfred S. Martin, president of the IRI; Dr. Larson; and R. F. Hibbs, president of the Nuclear Division of Union Carbide Corporation.

### GOOD FRIDAY HOLIDAY

Friday, April 9, is an official holiday for Nuclear Division employees, as Christendom observes Good Friday.

No employee is required to be at work unless his presence is necessary.

## 30 New Pre Co-Oppers Named

Thirty students who will enroll next fall in five predominantly Negro universities, have been selected for a special pre-cooperative program conducted by Union Carbide Corporation's Nuclear Division.

This is the second year for the program, which is designed to encourage Negro students to pursue college studies in science and engineering. The program, supported by the U. S. Atomic Energy Commission, is specifically aimed at students who might otherwise not attend college.

Educational facilities participating are: Howard University, Washington, D. C.; North Carolina A & T State University, Greensboro; Southern University, Baton Rouge, La.; Tennessee State University, Nashville; and Tuskegee Institute, Tuskegee, Ala.

### After Freshmen Year

Under the program, the Nuclear Division places several of the high school graduates in summer jobs as "pre-cooperative" students. Placement is contingent on their acceptance into an engineering or science cooperative curriculum at one of the participating institutions. In addition, the students must meet normal requirements for summer employment at Nuclear Division facilities.

Following this summer of employment, the student enrolls in the institution where he has been accepted. After his freshman year, he enters a Cooperative Education Program of alternate study and work periods as designed by his university.

### New Students Listed

Students participating in the pre-cooperative program this year are:

**Howard University** — James H. Alston, Hampton, Va.; Robert Cantrell, New York, N. Y.; Cornell L. Davis, Washington, D. C.; Jimmy R. Joplin, Charlotte, N. C.; Michael Lindsey, Oak Ridge, Tenn.; and Clifton A. Watkins, Partlow, Va.

**North Carolina A & T State**  
(Continued on Page 6)

## Vernon Is President Of Carbon Products

F. Bruce Vernon has been appointed president of the Carbon Products Division of Union Carbide Corporation, according to an announcement by Birny Mason, Jr., chairman of the board.

Vernon joined Union Carbide in 1938 at the corporation's plant in Fremont, Ohio. He has been identified with the Carbon Products Division throughout his business career, serving in various management positions at plant locations before moving to the New York office in 1960. He was appointed a vice-president in 1965 and executive vice-president in 1968.

Vernon is a native of Newport, R.I. He is an alumnus of Lafayette College, where he received the degree of B.A. in 1938. He and his family live in New Canaan, Conn.

The Carbon Products Division produces carbon and graphite in thousands of shapes and forms for use throughout industry. Among its leading products are graphite electrodes for electric furnace steelmaking, projector carbons for motion picture theaters, and high performance graphite fibers as well as other special products for the aerospace industry.



**MERIT AWARD**—Roy L. Williams, development engineer at the Oak Ridge Y-12 Plant, recently received a merit award from the San Fernando Valley Engineers' Council 'for outstanding professional qualities and meritorious achievements within the field of engineering.' Williams, a native of Houston, Tex., is a graduate of the University of Houston and holds an M.S. degree from the University of Illinois. Seen making the presentation, above, are W. J. Yaggi, superintendent of the Development Division in Y-12, Williams, W. J. Wilcox, Jr., Technical Director for the Nuclear Division, and F. W. Jones, superintendent of the Fabrication Systems Development Department. Williams and his wife Louise live at 122 Nebraska Avenue, Oak Ridge.



Thermonuclear Research Tool

# Nuclear Division Engineers, Craftsmen Team Up to Fabricate ORNL's ORMAK

ORMAK, a new ORNL experimental machine which scientists hope will be a major step toward controlled thermonuclear power and an important new energy source, is the product of a cooperative effort by all four Nuclear Division plants.

Patterned by ORNL scientists after machines developed in the Soviet Union, the device contains a donut-shaped electro-magnetic field chamber which is designed for the ultra-high-temperature requirements of fusion research.

## Wide Support Acknowledged

Herman Postma, director of ORNL's Thermonuclear Division, where the ORMAK was designed, said results of current tests will



not be fully assessed for several months. "Our first efforts are aimed toward checking the system — getting the bugs out," he said. "And soon we'll begin more formal experiments."

Successful results could pave the way toward design of a second machine capable of proving that it is scientifically feasible to control fusion power, the source of energy of the sun and stars.

Postma praised the help of more than 200 ORNL, Y-12, ORGDP, Paducah, and Rust Engineering Co. craftsmen who combined resources to fabricate the ORMAK. With special praise for Mike Roberts, who coordinated the fabrication effort, Postma noted that the fabrication team worked around the clock for several months to complete the project by January 1, 1971—the goal set for beginning tests of the device at the Thermonuclear Division.

The principle of fusion involves the heating of tritium and deuterium, both of which are isotopes of hydrogen and can be derived in virtually inexhaustible amount from the oceans and rocks. By means of pulsed electrical energy, these two isotopes would be heated to the hundred of millions of degrees. This would cause the electrons to separate from the atomic nuclei (ions). The nuclei, or ions, would then fuse and give off tremendous amounts of heat which could be used to produce electrical power by conventional methods.

The two big advantages in fusion power would be the inexpensive and inexhaustible supply of fuel and the fact that very little radioactive waste would be given off.

Ordinarily, the heating would cause the ions to disperse in many directions, but because the donut-shaped chamber in which they are placed is surrounded by a magnetic field, the ions and electrons travel round and round the field. When heated to the ionized stage, the material is called plasma by scientists.

Scientists have long dreamed of controlling the fusion reaction and harnessing its tremendous power. The process of fusion is the opposite of that involved in nuclear fission, or splitting of atoms, which occurs in nuclear reactors now in use.

## Has Large Volume

The ORNL machine was given the name ORMAK because the first two letters, "OR," stand for Oak Ridge, and the last three letters, "MAK," are the same as the last three letters of the Russian word, tokamak, which means "large current." The Russians named their machines tokamak because of the large current which flows around the donut-shaped magnetic field.

The ORMAK has a larger volume than the Russian tokamaks and ORNL researchers hope it will be twice as effective. They hope to double the greatest success of the Russians, which was to contain the plasmas within the magnetic field at temperatures of five million degrees centigrade.

## Production Plants Assist in Project

Mike Roberts, ORNL scientist in charge of the design and fabrication of ORMAK, has special thanks for the help from other Nuclear Division plants in the project.

"The time from ORMAK's conception to completion was very short," he reports, and "we could not have done it without the tremendous and enthusiastic technical assistance from the other plants." ORNL's Thermonuclear Division got approval for the project in mid-1969, and the fabrication phase started about mid-1970. Construction was completed earlier this year.

Roberts noted that ORNL sci-

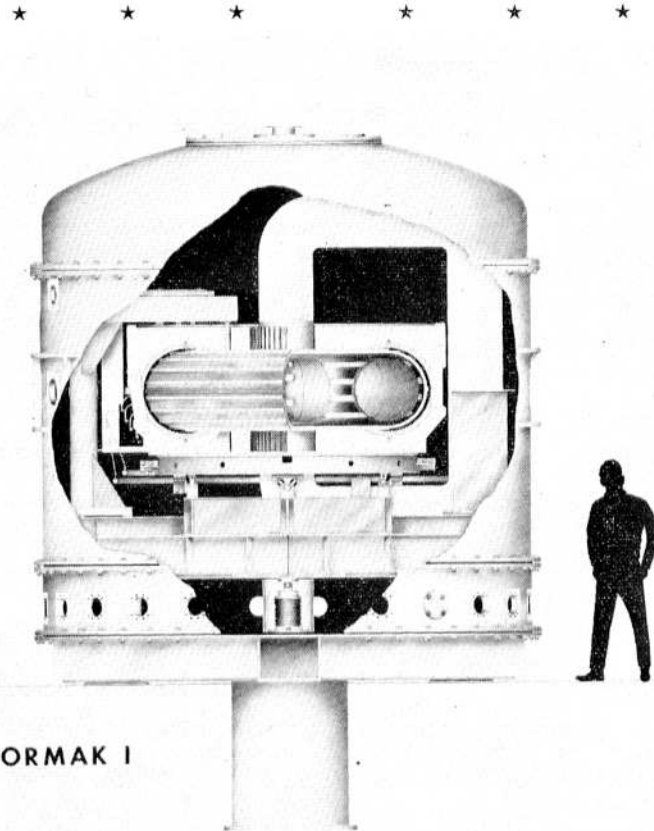
entists and engineers "interacted on a daily basis" with Y-12 and ORGDP shop personnel "who went way beyond the call of duty."

In general, Y-12 craftsmen were responsible for fabricating the complex inner machinery of the ORMAK, while ORGDP constructed the huge vacuum tank holding the machine. The Paducah plant assisted ORGDP by machining the stainless steel base on which the ORMAK shell is mounted. The Rust Engineering Co. group was responsible for site preparation.

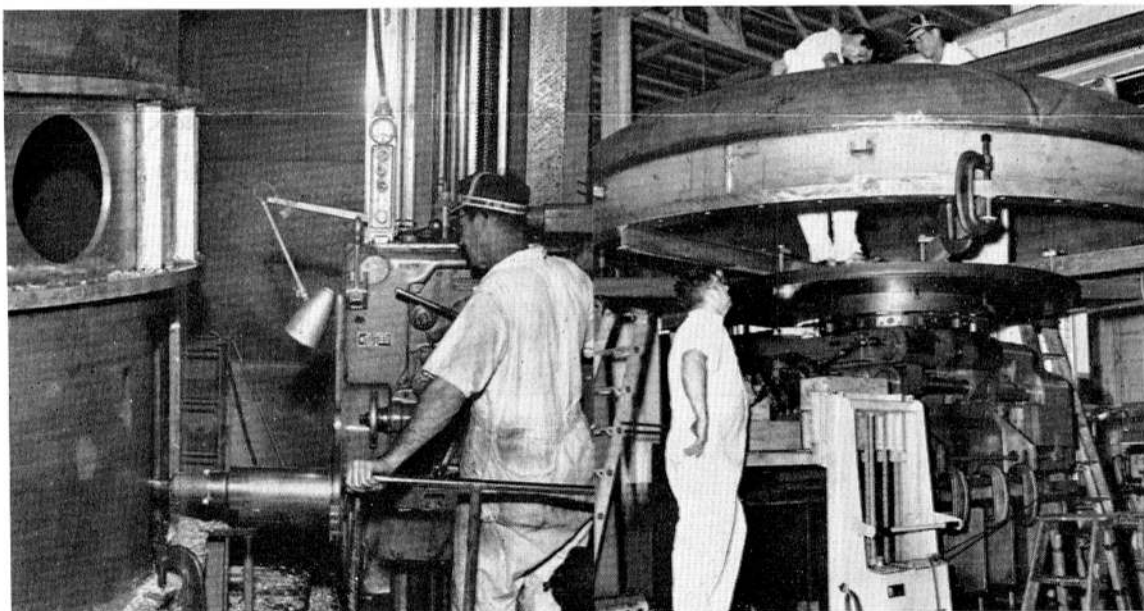
"We worked especially closely with Y-12 craftsmen and engineers," Roberts continued. "Y-12ers, following ORNL's design, fabricated, wired, and put together most of the sophisticated inner machinery of the ORMAK. For a period, during assembly, craftsmen worked around the clock to help us make our goal. And we needed other special capabilities at ORGDP to roll and form the large metal sheets, which were then machined into a vacuum-tight container for the system."

Many of the parts required close tolerances, X-ray quality welds, and extreme cleanliness, he said.

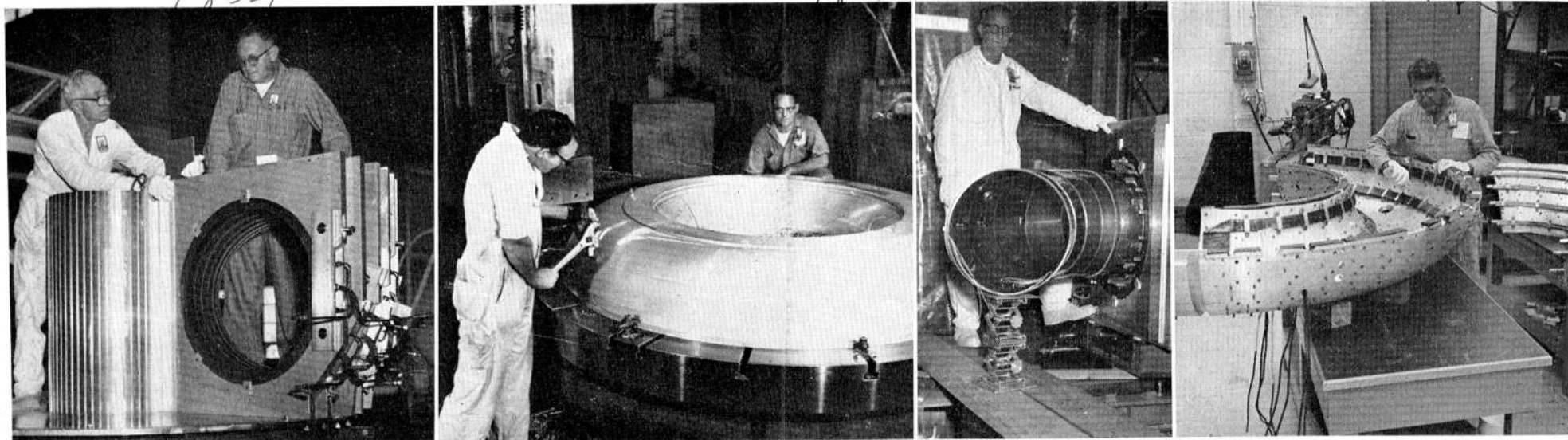
In charge of ORGDP's efforts, which involved about 30 employees working over a period of six months, were M. C. Martin, Machine Shop superintendent, C. L. (Continued on Page 6)



**ARTIST'S CONCEPTION**—This is an artist's view of ORMAK, ORNL's unique experimental machine for nuclear fusion research. The system features a donut-shaped tube in which plasma is controlled by magnetic fields.



**ORGDP CONTRIBUTIONS**—A. F. Poche, in photo at left, is seen milling a door in the ORMAK center section. In the photo at right, H. F. Walters looks up as J. M. Wells, left, and A. F. Poche, position the 159" diameter stainless steel head for the ORMAK project on the horizontal mill.



**Y-12 CRAFTSMEN**—Exacting specifications and extremely fine tolerances were observed in the fabrication of units for the ORMAK. Above, Y-12 craftsmen are seen in various stages of the construction of ORMAK. In the photo at left, C. D. Johnson, left, and W. W. Wright, left, both of

Research Services, check the fit and lead dress on the completed support structure. Next, T. R. Justice and T. E. Maynard, General Machine Shop, make final assembly adjustments. In the third photo Homer Jeffers, Research Services, is in the midst of inserting the .010-inch thick, gold-plated,

stainless steel liner into one-half of the assembled 'torus.' In the photo at the right, Electrical's W. A. McFarland adjusts the vertical field coils on the inside of the torus. The ORMAK, named after the Russian "tokamak," which means "large current," began test operations here recently.





Early Spring brings more anniversaries for Y-12ers, marking important dates with Union Carbide Corporation. Congratulations.

#### 25 YEARS

**Nell G. Cannon**, Production Analysis, March 25.

**James E. Bledsoe**, Tool Grinding, March 25.

**Howard M. Preuss**, Alpha Five Assembly Area, March 25.

#### 20 YEARS

**Isadore Sharper**, Building Services, March 16.

**James E. Borum**, Process Maintenance, March 16.

**Charles T. Haun**, Buildings, Grounds and Maintenance Shops, March 18.

**Clayton W. Cook**, Casting Department, March 19.

**Joe Bridges**, Beta Two Forming, March 19.

**James H. Nash**, Fabrication Systems Development, March 19.

**Lloyd B. Jones**, Facilities Engineering, March 19.

**Roy F. Young**, Chemical Services, March 21.

**Kenneth D. Cook**, Facilities Engineering, March 26.

**Wayne J. Johnson**, Area Five Maintenance, March 26.

**Eleanore P. Duke**, Chemical Services, March 26.

**Acrillus J. Melton**, Tool Grinding, March 26.

**Leon L. Parris**, Engineering Division, March 26.

**Howard B. Jarvis**, A-2 Shops, 9212, March 27.

**Jay L. Ledgerwood**, Dimensional Inspection, March 28.

**Carl M. Jenkins**, Material Transfer and Packing, March 28.

**William C. Johnson**, Buildings, Grounds and Maintenance Shops, March 29.

**Fred J. Stout**, Building Services, March 29.

**David E. Dryden**, Research Services, March 30.

#### 15 YEARS

**Charles M. Gallaher**, Dispatching Department, March 17.

(Continued on Page 4)

## GED Test Preparation

Any employee having less than a high school education may be interested in investigating the opportunity to earn a high school diploma.

A pilot program in GED using a Learning Lab for a small group of volunteer Y-12 employees is being started. The Learning Lab will be conducted in Building 9709 (TAT headquarters) from April 5, to October 1. Due to limitations in space and teaching staff available, the initial enrollment will consist of a small number of early applicants.

The Learning Lab schedule anticipated will be for a minimum of two hours duration for each participant twice each week. One hour on any one day may be during regular working hours. The other hour or more lab time for each period will be after (or before) working time and will be without pay. The Learning Lab will be open for use from 2 p.m. to 6 p.m., Monday through Thursday.

If you wish to take advantage of this opportunity, see your supervisor and complete the required application.

## Y-12 Greensmen Paged For Summer League Play

Four, and possibly five, golf leagues are in the making for Y-12 sportsmen for summer play.

Organizational meeting will be set as soon as possible so that play can commence shortly. Just call Recreation, extension 3-7109, and give them your twosome's name. A minimum of eight teams is required to form a league.

League action will take place at Cedar Hill, Lenoir City (or Martel); Southwest Point, Kingston; Melton Hill, Clinton; Whittle Springs, Knoxville; and South Hills, here in Oak Ridge, if the course is finished in time.

When calling Recreation be sure to let them know what league you wish to enter.



**WELL WISHERS GATHER**—Some 100 friends of Y-12 Credit Union's treasurer-manager, Lorena Matthews, gather for the oath of office she took to the National Management Conference. The credit union official is married to Lamar Matthews, in Y-12's Product Information Center.

## Lorena C. Matthews Administered Oath To National Office

Lorena C. Matthews, treasurer-manager of Y-12's Credit Union, was sworn in recently as a member of the National Management Conference steering committee.

Some 100 persons witnessed the ceremony at the Y-12 Credit Union Building. The oath was administered by U.S. District Judge Frank W. Wilson of Chattanooga, formerly of Oak Ridge.

Mrs. Matthews, wife of Y-12 engineer Lamar Matthews, is the first woman to be selected to the committee. The appointment, subjected to Senate approval, was made by President Nixon.

The average taxpayer is rapidly becoming the first of America's natural resources to be exhausted.



**REPEAT AFTER ME**—Federal Judge Frank Wilson administered the oath of office to Lorena Matthews, Y-12 Credit Union treasurer-manager, recently, as she was named to the National Management Conference steering committee by President Nixon.

## Eight Y-12ers Are Retiring With 177 Years Service

A total of eight Y-12ers retire next Wednesday, enjoying more than 177 years service with Union Carbide Corporation.

The retirees are Gustave J. Angelle, Engineering Mechanics; Wiley Cook, Process Maintenance; John A. Packard, General Weld Shop; Walter W. Pugh, Area Five Maintenance; George M. Renfro, Process Maintenance; Harold L. Smith, Dimensional Inspection; Bernie W. West, Machine Maintenance; and Donald B. Woodbridge, Superintendent's Division. Good luck!

### THANKS ACKNOWLEDGED

O. J. Draughn, Crossville, called recently to acknowledge his appreciation of all the help and understanding he received from co-workers and friends during his illness. He says he is feeling better now, still seeing the doctor twice a week. "Everyone, Medical, supervision, and my fellow workers . . . were extremely nice



**Ride wanted from Karns Community, vicinity of Emory Road near Imperial Estates, to North or Central Portal, straight day.** Patty Weaver, plant phone 3-5910, home phone Knoxville 947-8442.

**Ride wanted from 115 Kentucky Avenue, South Clinton, to North or Central Portal, straight day.** Sherman L. Jenkins, plant phone 3-5186, home phone Clinton 457-9183.

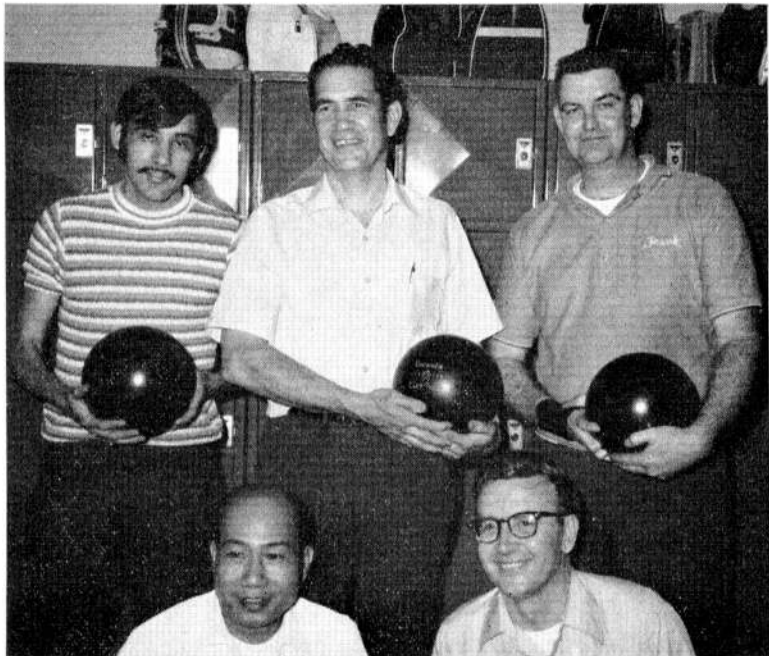
**Riders wanted from West Knoxville, Deane Hill section, via Kingston Pike to Cedar Bluff Road, Belmont West, Gulf Park, etc., to any portal, straight day.** Jim George, plant phone 3-7277, home phone Knoxville 588-6474.

to me. I appreciate it," Draughn said.



**EDUCATIONAL WORKSHOP**—Approximately 75 persons attended the American Society for Nondestructive Testing's eighth annual educational workshop held recently in Y-12. Several Union Carbide employees served as instructors. Certificates were awarded those attending. One of the workshop sessions is seen above.





**TEAM WINNERS**—A 2770 scratch score, boosted to 3082 handicap-wise, gave the Strikers team honors in the recent Y-12 bowling tournament. In the front, from left, are Del Duca and Don McAlister. Standing are Don Norris, Ray Waldrop and Frank Tuck.

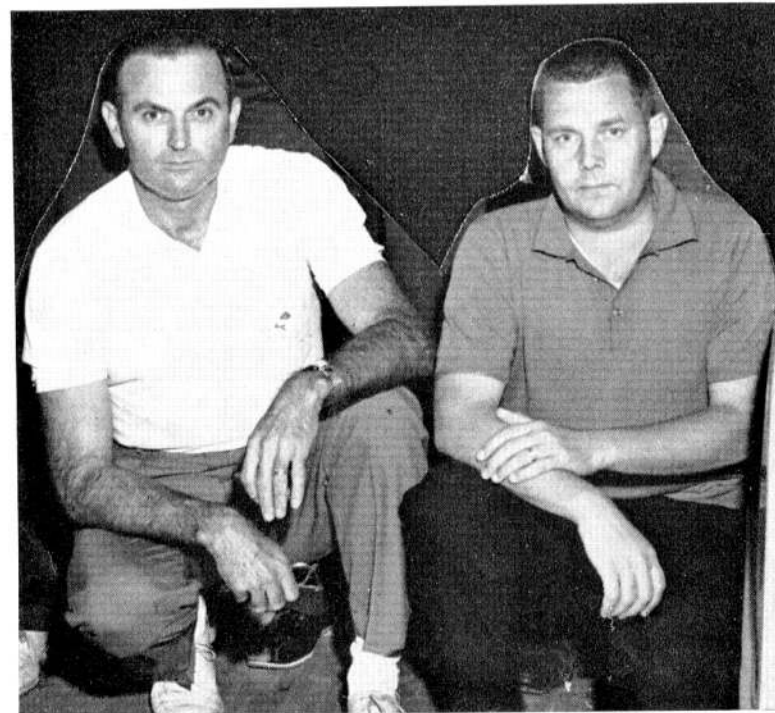
## Bob Whittaker Sweeps Alley Honors As Strikers Roll High Team Scores

Y-12's Bowling Tournament climaxed March 13 and 14 with a total of 31 teams entered, an all-time high for men's teams. The big Strikers rolled a 2770 total score to take honors in team events. The Strikers are made up of Don Norris, Ray Waldrop, Don McAlister, Frank Tuck and Del Duca.

The men's crown went to Bob Whittaker, who posted a sizzling 1705 scratch All Events score! Ruby O'Kain, with a 1536, repeated for women's champ.

Handicap scores for the first seven placed teams included: Strikers, 3082; Has Beens 3007; Rebels, 2992; Rounders, 2947; Markers, 2942; Bumpers 2938; and Alpha 5 Special, 2861.

Bill Ladd and Ruby O'Kain scooped a red-hot 1300 handicap tally in Mixed Doubles. Walt Sherrod and Irene Carmack rolled a 1162 handicap twosome, and took the handicap trophy. Nancy Garrison and C. C. Roberts rolled a 1138.



**DOUBLES CHAMPS**—Joe Morgan and Dan Kessell rolled a combined 1159 scratch, 1276 handicap tally to sweep men's doubles honors.

## Swingsters Ease Way Into Classic Top Spot

The Swingsters hold a one-half point lead in Classic bowling after last week's play. Bob Whittaker, Bumpers, just to show that winning the tournament wasn't a fluke, took a 234 game to his credit last week. J. C. Kendra, Smelters, posted a 237 the week before.

Harold Zang, Markers, marked a 621 series recently . . . and the Bumpers rolled a 3073 handicap series on March 11!

Team	W	L
Swingsters	30	14
All Stars	29½	14½
Markers	28	16
Eightballs	27	17
Bumpers	26	18
Playboys	25	19
Screwballs	24½	19½
Has Beens	23	21
Smelters	22	22
Eagles	19½	24½
Rippers	18	26
Rebels	18	26
Splinters	17	27
Cubs	16	28
Tigers	15½	28½
Rojo's	13	31

## Three-Way Tie Result Of Starlite's Bowling

A three-way tie for first place in the Carbide Starlite Bowling League is the result of seven weeks of action. Doug Sparks, Pin Boys, last week put a 216 scratch, 256 handicap game on the boards.

On the week before J. R. Jones, Mix-Ups, came through with a 245, 261 game . . . a series in the order of 590, 638!

Team	W	L
Mix-Ups	14	7
Latecomers	14	7
Splitters	14	7
Rollers	12	9
Pin Boys	12	9
Raiders	10	11
Woodpeckers	10	11
Wildcats	10	11
Marauders	5	16
Comets	4	17

## Y-12 Milestones

(Continued from Page 3)

**Carl W. Ward**, Process Maintenance, March 20.

**James O. Olvey**, Utilities Administration, March 31.

### 10 YEARS

**William H. Gheen, Jr.**, Tool Grinding, March 20.

**Kenneth W. Brock**, Dimensional Inspection, March 20.

**Thomas S. Sparks**, M-Wing Shop, March 20.

**Harley S. Weaver**, General Metal Fabrication Shop, March 22.

**George F. Smith**, Garage, March 28.

Marlie Cooper, 647; Howard Nobles, 647; R. L. Waters, 643; Frank Marlin, 638; Carl Frazier, 636; Jim Franklin, 628; Sewell Brown, 627; Elmer Johnson, 624; Archie Gervin, 623; Dick Nixdorf, 623; Joe Morgan, 622; Jim Thompson, 618; Loyd E. Wyatt, 615; Frank Tuck, 614; D. A. Henderson, 613; Ray Waldrop, 612; Don Forrester, 612; John Scott, 607; C. Beal, 604; Glen Kindred, 602; and Joe Pryor, 602.

Men's All Events prize money went to Howard Nobles, 1904; J. R. Norris, 1901; R. L. Waters, 1881; John Reece, 1856; J. C. Franklin, 1848; Trig Myhre, 1844; Jack McLendon, 1830; Walt Sherrod, 1819; Clyde Craven, 1818; Joe Morgan, 1800; Bob Whittaker, 1795; and J. H. Morgan, 1788.

In Women's Singles it was Bobbie Hill, 648; Virginia Newby, 569; and Helen Ellison, 561 . . . all handicap scores.

Irene Carmack and Bobbie Hill rolled high Women's Doubles, posting a 1188 handicap tally. Barbara Hackett and Helen Ellison posted second place with 1131.

Fewer women bowlers made an appearance this year, due to conflicts with State tournament dates in Kingsport.

Most league action will wind up for Y-12ers in the next few weeks.

## 2 Y-12ers Victims Of Traffic Mishaps

Two Y-12ers were victims of separate automobile accidents recently. Fatie A. Roberson, Electrical and Electronics, was killed in a collision March 8. John O. Bolling, Jr., 9215 Rolling Department, was fatally injured Friday, March 5.

Mr. Roberson, a native of Lexington, Tex., came here March 16, 1970, after serving more than 20 years in the U. S. Army. He made a temporary home in Oak Ridge, and commuted on weekends to Huntsville, Ala. He was returning from Huntsville when the fatal accident occurred.

Survivors include his wife Mrs. Clara Dawsey Roberson, and a son Doyle, both of Huntsville.

Memorial services were held March 11 in the Welch and Harris Funeral Home, Huntsville, and final rites were held at Shorters Chapel Methodist Church, Gibbings, Tex., March 13. In lieu of flowers, contributions should be sent to St. Jude's Childrens Hospital, Memphis.

John O. Bolling, a native of Habersham, Tenn., came here February 22, 1963. He served in the U. S. Army from 1950 until 1952, and worked in the Cleveland, Ohio area, until coming here, with Perfection Stove Company, Thompson Products, Bowden Manufacturing Corp., and the Tow Motor Company.

Surviving Mr. Bolling, at his Sunbright home, are his wife Mrs. Alene Lamb Bolling, and four children, David, Theresa, Vaughn and Mary. His parents, Mr. and Mrs. John O. Bolling, Sr., Lansing, also survive; along with four brothers, Curtis, Oakdale; Joseph, Lansing; Lewis, Kokomo, Ind., and Kenneth, Sunbright; sisters, Elizabeth Childs, Harriman; Wilma Helton, Kokomo; and Christine Griffis, Oliver Springs.

Services were held March 7 at

## First Golf Tournament Is April 24 at Wallace Hills

Y-12ers are all set for their first golf tournament of the year next month. It is set for Saturday, April 24, at Wallace Hills Club, Maryville.

A coupon below is included for golfers' convenience. You must pre-register to participate. There are a few carts available at Wallace Hills, but they must be arranged for by golfers wishing them. Recreation will not register for carts for employees. If an employee wishes a cart, he should call Maryville 982-9846, after April 19, and make arrangements with the pro himself.

The coupon will be repeated in the next issue of the Y-12 Bulletin, for this tournament only.

## Sunflowers Tie Anodes For C Bowling Lead

The Sunflowers have moved up to tie the Anodes for the top berth in the C Bowling League. They slipped two points away from the Badgers.

League standings follow:

Team	W	L
Anodes	30	14
Sunflowers	30	14
Badgers	28	16
Instrument Engineers	26	18
Jaguars	25	19
Fireballs	23	21
Rollmasters	22	22
Parabusters	20	24
Rounders	17	27
Purple Pygmies	15	29
Royal Flush	15	29
Big Five	13	31

## Alley Cats Strengthen Mixed Alley Position

With only two weeks remaining on the current schedule, the Alley Cats have a four-point lead for the last half race in the Mixed Bowling League.

Larry DeRoos, Cougars, rolled a 210 game, his high for the season recently! The week before that Frank Adams, Rollers, rolled a 209. Alice Forseman, Friskies, felled a 663 handicap series recently.

League standings follow:

Team	W	L
Alley Cats	32	16
Rollers	28	20
Twisters	28	20
Friskies	24	24
Hits & Misses	22	26
Goofers	21	27
Cougars	21	27
Roses 'n Thorns	16	32

Schubert Funeral Home Chapel, Wartburg. Burial followed in the Douglas Cemetery, Newcomb, with Masonic Lodge rites.

## Tee-Off Time Application For Wallace Hills Golf Tournament

Maryville, Tenn.

Saturday, April 24

Foursome

\_\_\_\_\_, Leader

Leader's office phone \_\_\_\_\_

Home phone \_\_\_\_\_

Tee-off Time Preferred \_\_\_\_\_

Fill out completely and return to the Recreation Office, Building 9711-5. Deadline for entering is 4:30 p.m. Wednesday, April 21. Tee-off times will be drawn the next day, Thursday, April 22 at 8 a.m.



# THE CARBIDE COURIER

Thursday, March 25, 1971

Page 3

## Dickerson and Sharp Plan Retirement From ORGDP Ranks; Both Are Natives

Two employees retire during March from ORGDP; Woodrow Dickerson will terminate March 26, and Edgar L. Sharp left March 19.

### Woodrow Dickerson

Woodrow Dickerson has been in the Janitors Department, Fabrication and Maintenance Division. He came here November 6, 1946. Before coming with Union Carbide, he had worked for both Maxon Construction Company and Stone and Webster here in Oak Ridge. Prior to moving to Oak Ridge, he worked in a sawmill in White County, Tenn.

Dickerson is a native of Sparta. He is married to the former Otsa Magauirk Oliver. They live on Pine Ridge Road in Harriman.

### Edgar L. Sharp

Edgar L. Sharp was a maintenance mechanic in Fabrication Shops, also in F & M Division. He came with Union Carbide July 2, 1944. For a short while he worked with Ford, Bacon and Davis here in Oak Ridge. Before moving to this area, he worked for the Mingledoff Shipyard, Savannah, Ga., and for McDonald Construction, Atlanta.

Sharp was born in Oliver Springs and attended school in Tupertown. He is married to the former Pauline Webber. They have four children: William Edgar, Wanda Fay Bond, both in Oak Ridge; Ruby Jean Wiser, Garland, Tex., and Patsy Ruth McGhee, Dayton, Ohio.

The Sharps live at 508 Hendrickson Street, Clinton.



Dickerson

Sharp

## Vance-Park Paper Given at Meeting

A paper entitled "Use of a Computer in Test Data Reduction and Performance Prediction for Cross Flow Cooling Towers," by John M. Vance, Gaseous Diffusion Development Division, and James E. Park, Computer Technology Center, was presented at the American Institute of Chemical Engineers Meeting held in Houston, Tex., February 28 - March 4.

Vance has been associated with Union Carbide since 1951. In that time his main activities have centered around the removal of waste energy from the plant. The final step in this process is the rejection of heat to the atmosphere, which is accomplished here by huge water cooling towers. He has been involved in the analysis of designs submitted by interested vendors and has been responsible for the drafting of guidelines for the acceptance tests of new towers. He is a graduate of The University of Tennessee with a B.S. in chemical engineering. He lives in Knoxville with his wife, Sunny, and two daughters.

Park came to Oak Ridge in 1957 to work on the cost and performance analysis of process heat exchangers. He returned to school in 1962 and earned his Ph.D. from Rice University. Since coming back to Oak Ridge in 1967, he has been at CTC and is now Head of the Special Projects Section. He and his wife and two children reside in Knoxville.

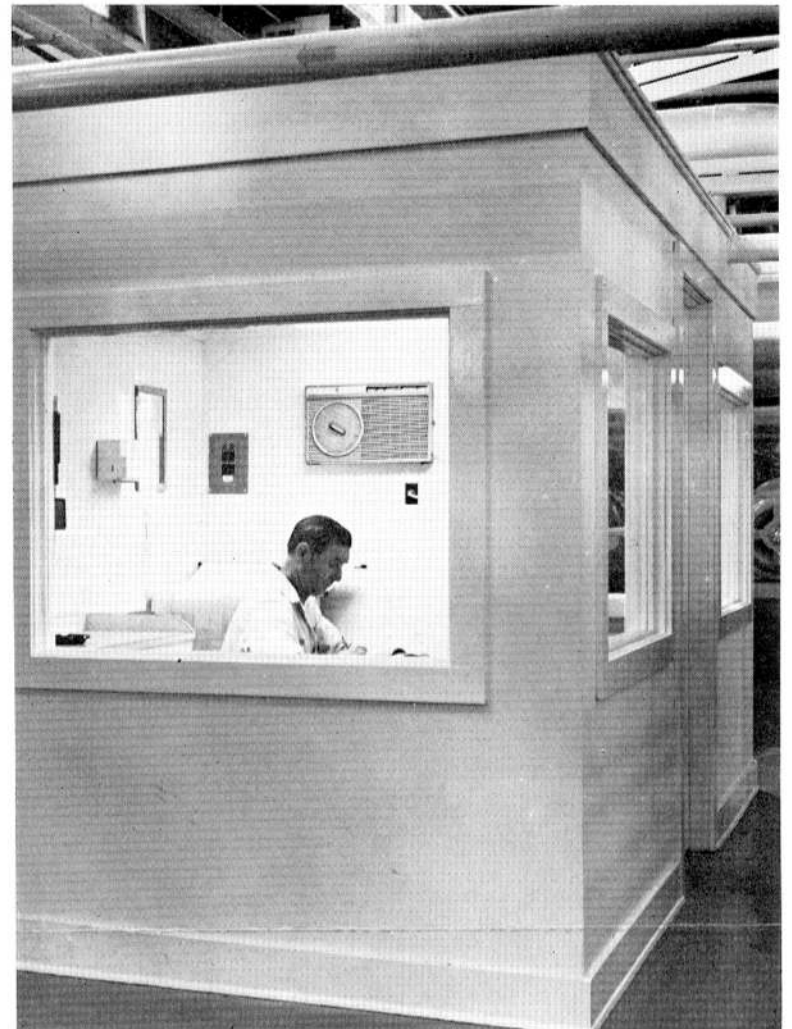
## Noise Abatement Is Noted in Operation

ORGDP is placing increased emphasis on determining all possible means of reducing pollution. The reduction of noise levels is one of the objectives of pollution control, along with cleaner air and cleaner water.

One of the most gratifying accomplishments in reducing noise level, to which employees are exposed, has been in the Air Plant, Building K-1101. Supervision in the Air Plant was aware of the noise level so it was necessary for the operators to wear some sort of ear protection at least part of their eight hour shift. Noise level reading at the operators normal work locations were 90, 93 and 92 decibels. The plant guide level for working without ear protection is 90 decibels over an eight hour period.

In studying this problem, supervisors in the Air Plant came up with the idea to construct a sound-insulated room where the operator could observe most of the controls for the Air Plant operations. The room was constructed and the results are truly outstanding—in place of 90, 93, 92 decibel readings, the new sound level is 72, 82, 80. This is a remarkable accomplishment when one considers that each decrease of 10 decibels reduces the sound intensity 10 times.

Here is an outstanding example of how good straight thinking solved one of the pollution problems in the plant.



**SOUND INSULATED ROOM**—Designed to reduce the noise level for the operators in the building is this Sound Insulated Room in the Air Plant. J. O. Watson, A Shift, is the operator, above.

## 15 Years' Service

J. W. Anderson Sr.	3-01-56
E. R. Hensley	3-06-56
J. M. Shumpert	3-08-56
R. P. Ratjen	3-12-56
J. C. Bridges	3-21-56



Ride wanted or will join car pool for 4:00 to 12:00 shift from Strawberry Plains to Portal 6 or Portal 4. Steve Grigsby, phone 3-9360, home 933-6276.

## Safety Tips On Local Driving

1. Develop the habit of observing traffic laws, signs, and signals.
2. Drive defensively, watch the traffic-flow pattern ahead, and by means of your rear view mirror, keep account of following traffic. Always keep a sharp watch on the other driver.
3. Train yourself to yield even your right-of-way rather than risk a collision.
4. Maintain a safe distance between your vehicle and the one ahead.
5. Don't depend on your turn indicator and the other driver's courtesy to bail you out when you recklessly pull into a moving traffic lane or change lanes.
6. When the weather is bad and the pavement is slippery, slow down.
7. Don't stop in moving traffic lanes to pickup or discharge passengers.
8. Don't mix driving and drinking.
9. Install and use seat belts—they won't prevent an accident but they will reduce the possibility of personal injury if you have one.
10. Turn on your headlights, **not parking lights**, in times of limited visibility—early morning, late afternoon and in rain and fog.

## Operator John R. Berry Dies, Was Avid Bowler

John R. Berry, an operator in the U-235 Separations Department, Operations Division, died March 9. He had been in ill health for several months, but had returned to work only last month.

He came here in September, 1944.

A native of Lawrenceburg, Mr. Berry lived at 84 Outer Drive, Oak Ridge. Survivors include his wife, the former Daffo Burris; a son, William R. Berry, Lenoir, N. C., and a daughter, Elizabeth Speers, Hartsville, S. C.

The deceased employee was an avid bowler in K-25 Leagues and had won a number of trophies through the years.



Berry

## SCIENTIFIC EXPLOSION

The 1880 census listed 800 scientists. Although the term "scientist" has been dropped from census statistics, the 1960 census figures show that 1.4 million people were engaged in research and development alone. This number is expected to rise to 2.5 million by 1975. Of all the scientists who ever lived, about three-quarters are alive and practicing their profession today.



**ACHIEVEMENT AWARDS**—L. A. Studinger, superintendent of Fabrication and Maintenance Division, left, presents plaques to Larry Johnson and Charles E. Wilson (painters), and Ralph L. Vowell, maintenance mechanic, following the successful completion of the helper training program. V. B. Goddard, superintendent of Buildings and Grounds, looks on from the right.

## THE CARBIDE COURIER

Published Biweekly  
Editor ..... H. J. Mayberry  
K-1002 Building, Tel. 3-3097



# These Employees Reach 25 Years Service This Month



## SME Chairman Job Goes to J. C. Hall



Joseph C. Hall

Joseph C. Hall, Fabrication Shops Department Head, Fabrication and Maintenance Division, was recently appointed Chairman of the Administrative Council of the Society of Manufacturing Engineers, a world-wide organization of over 47,000 members.

As chairman of the council, Hall will meet three times a year with the five chairmen of standing committees to review and assist in developing their respective programs. He will then meet with the eight-man Executive Committee of SME to seek budgetary approval for operational programs totaling some three and one-half million dollars annually. The majority of each year's budget is spent on educational programs. The post of chairman of the administrative council is the highest appointive office in the Society.

Hall has served as chairman of the Knoxville-Oak Ridge chapter of SME and held several offices in the international organization. He served as chairman of Region V, comprising the 15 southeastern states, including Mexico and Puerto Rico, in 1969-1970.

## 20 Years' Service

C. J. Parrish Jr.	3-08-51
D. J. Sharpe	3-12-51
N. W. Snow	3-14-51
H. F. Dunlap	3-16-51
A. A. Myllymaki	3-16-51
M. C. Short	3-18-51
D. R. Carter	3-19-51
G. F. Rawlings	3-19-51
N. W. Askew	3-20-51
L. E. Paulk	3-26-51
A. F. Johnson	3-28-51

## ORGDP's Keyser Plans Paper in California

R. M. Keyser, Materials Development Department, Gaseous Diffusion Development Division, will present a paper at the meeting of the American Chemical Society, Los Angeles, Calif., on April 2.

The paper is entitled "ESR Studies of Trapped Electrons in Gamma-Irradiated Hydrocarbon Polymers." Francon Williams, of the University of Tennessee, is co-author of the paper.

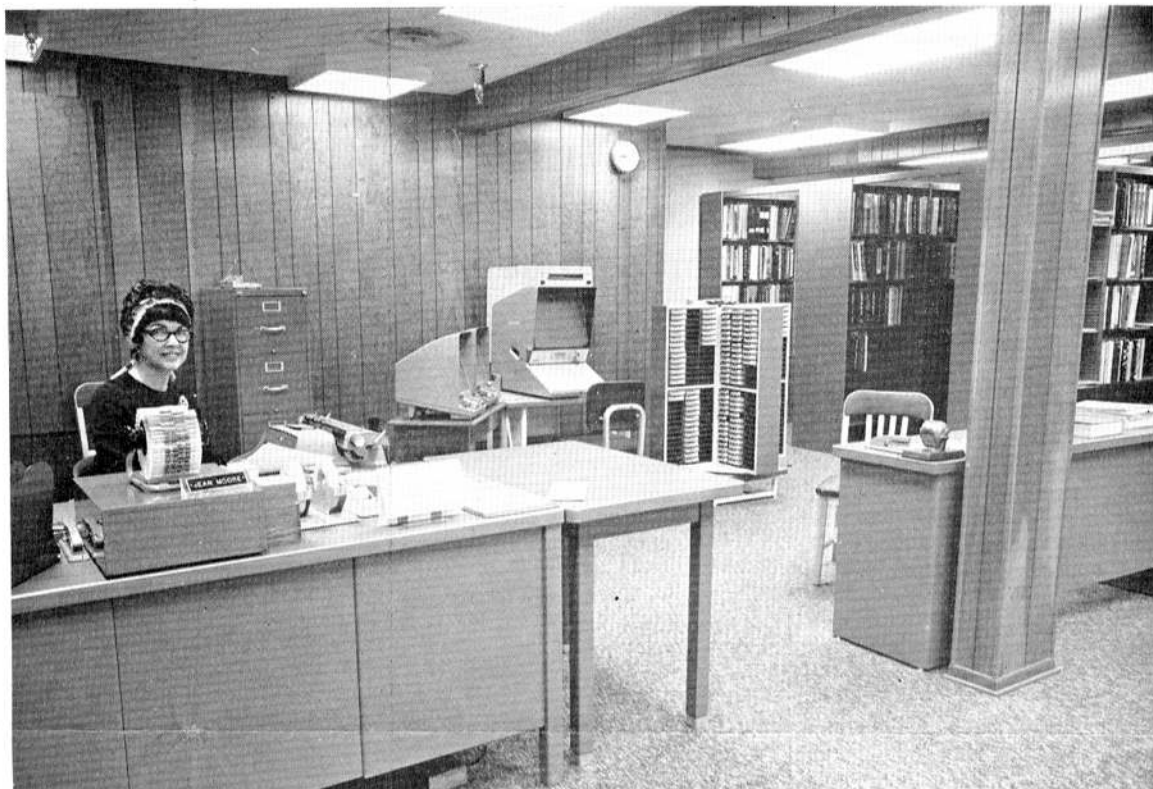
## TO A SWEET LONG LIFE

A considerable proportion of the men and women who attain age 65 can expect to be alive twenty years later. Nearly twenty per cent of the men who reach normal retirement age will celebrate an 85th birthday (thirty per cent for women).

And if you want to enjoy those post-retirement years, it is recommended that you (1) have fun and laugh a lot; (2) work at something worthwhile, full or part time; (3) serve others; (4) seek your doctor's advice; and (5) praise God.



**PATENT APPLICATION**—Members of Separation System Division who recently received patent application awards are shown at the presentation. The awards were received by E. F. Babelay, D. A. Waters, and R. W. Wavrik for the development of high performance components for process machinery at ORGDP. Shown from left are E. C. Evans, division superintendent, Babelay, Waters and Wavrik.



**ENGINEERING CATALOGUE FILES**—Located in the north end of the C-Wing of Building K-1001 (second floor), the Engineering Catalog Files have been refurbished. Jean Moore, recently transferred from ORNL, is in charge of the files.

## Shoptaw Daughter Is Nurse at Famed Clinic



Sue Shoptaw

Sue Shoptaw, daughter of Howard Shoptaw, Methods Engineering Department, has the distinction of being supervisor of the world's largest cardiovascular intensive-care unit in the Fondren-Brown Hospital in Houston, Tex. The hospital is part of the Texas Medical Center, the "transplant capital" where world-famed Dr. Michael DeBakey practices.

Sue set up the 50-bed unit from its inception. She evaluated the necessary equipment for purchasing, and set up procedures for the operation of the unit. The complex includes a six-bed post-operative transplant unit to facilitate reverse isolation measures required for transplant patients.

## Engineering Catalogue Files Occupy A New and Enlarged Location in K-1001

The Oak Ridge Gaseous Diffusion Plant's Engineering Catalogue Files began operations in a new, enlarged location in the C-Wing of Building K-1001, recently. The catalogue files contain catalogues, buyers' guides, product indices, trade directories, and a visual search microfilm file (VSMF) for design engineering and building products. At present, there are about 1,500 vendors represented in the catalogue collection, 8,300 vendors in the design engineering microfilm file, and 4,000 in the building products microfilm file.

Information in the design engineering file can be obtained through subject and vendor indices. In addition to assess by subject and vendor, information in the file can be obtained by brand name and products. The catalogue collection is arranged alphabetically by vendor, but a subject approach is possible by using one or more of the available

The young nurse worked in Y-12 following her graduation in 1961 from Vanderbilt. She has recently been named an editorial consultant to RN Magazine. These consultants read and comment on manuscripts being prepared for publication. manufacturers' directories and product guides, such as "Thomas Register."

Catalogues are available for use in the files or are for loan. Photo-

copies of vendor data on the VSMF are also available. Personnel requiring library reference material such as books, periodicals, and reports are requested to contact the ORGDP Library.

Engineering Catalogue Files are operated under the director of the ORGDP Library and are maintained for use by Plant personnel.

## Women's Bowling

Mary Foley grabbed all the honors, except one, in the last two sessions of the Women's League. In the March 2 rolling, she had a 202-225 single game and a 537-606 series. In the March 9 session, her 199 single was high and she had the best series scores of 552-621. Judy Phillips had the best handicap single game score with a 236.

### Standings

Pay-Offs	31	Pin-Ups	19
Up-T'ners	20½	Hot Shots	13½
Spotters	20	Bowlettes	13
Wood Bees	19	Hit & Misses	8

## SAFETY SCOREBOARD

OUR PLANT  
Has Operated  
554,000 Safe Hours  
Through March 18

Since last disabling injury on Feb. 9



## Seldom the Villain

## Headaches and Eye Strain

By T. A. LINCOLN, M.D.

Since headache and errors of refraction are common problems, it is not surprising that many people believe they are frequently related. It has been estimated that almost 20 percent of women aged 20 to 64 have occasional migraine or migraine-like headaches. Although seldom the basis for rejection, about eight percent of men between the ages of 18 and 38 reported frequent severe headaches when examined for military service during World War II.



Dr. Lincoln

Headaches are common but so are refractive errors. About 25 to 30 percent of men and women under age 45 have refractive errors requiring glasses.

An important reason for associating headaches and eye disorders is the location of pain in and around the eye. Migraine headaches are often located in the temples and radiate through the head around and behind the eyes.

Patients with migraine often have associated eye symptoms. Often they will have preheadache blind spots, tunnel vision and bright flashes of light or wavy lines, golden balls or sparkling scintillations. These visual hallucinations are usually mobile and interfere with vision. During the headache they may complain of extreme sensitivity to light, blurred vision, tearing and difficulty focusing.

## 'Patterns' Associated with Specific Types of Headaches

Patients with simple tension headache often complain of a difficulty concentrating or reading. Since the onset may have occurred during some pressure packed studying or close work, it is not surprising that the eyes are often blamed.

Dr. Harold G. Wolff, then Professor of Medicine (Neurology) at Cornell University Medical College, described typical headaches due to refractive errors and eye muscle imbalances in his well-known book, **Headache and Other Head Pain**, published in 1948. Dr. Wolff spent his life studying headaches and felt that he was able to sort out many pain patterns associated with specific types of headache.

He described eye headaches as beginning with a feeling of heaviness in the head and pain in and around the eyes. They are typically brought on by prolonged "close work" such as reading. Sometimes they may be precipitated by watching TV or a motion picture. The pain is usually steady and not throbbing. The eyes feel tired but the eyeballs are not tender and they don't hurt when they are moved. Sometimes there is an increased sensitivity to light and an increased tearing.

## Proneness Accentuates Eye Strain Headache

Dr. Wolff put glasses on volunteers who had not been subject to headaches in order to produce various types of eye strain. By putting five diopter concave spheres in their glasses, he duplicated the effect of far vision. After several hours, the wearers developed aching in and around the eyes which became much worse after prolonged reading. He used cylindrical lenses to produce the effect of astigmatism and got similar complaints. When he used convex lenses to produce a nearsighted effect he only got mildly blurred vision but no eye pain or headache. When he used prisms he produced the effect of a muscle imbalance which caused temporary double vision and irritability but usually no headache. These techniques did not cause severe generalized headaches but rather eye pain.

Dr. Wolff noted that headache prone individuals were much more likely to develop headaches when subjected to eye strain. There appeared to be a cumulative effect. Each factor alone might cause a mild headache while the combination could cause a severe one.

## Visual Defects Seldom Cause Headaches

More recently Dr. W. E. Waters of the Medical Research Council of Wales studied 1,838 persons selected at random from voter lists in Glamorgan. A random sample of 414 individuals, one-third of which had had no headaches and the remainder had recurring headaches about equally distributed among typical migraine, one-sided headaches thought not to be migraine, and diffuse headaches. All had careful refractions and ophthalmological examinations.



**COMMITTEE MEMBER SPEAKS**—U. S. Rep. Craig Hosmer, ranking Republican member of the Joint Committee on Atomic Energy, spoke recently in Oak Ridge at the National Engineers Week banquet. Rep. Hosmer spoke on the 'Impact of Environmental Concerns on the Nuclear Power Growth.' Seen above prior to the dinner address are, from left, Paul Vanstrum, S. R. Sapirie, Alvin M. Weinberg and Rep. Hosmer. Vanstrum and Weinberg are vice presidents of the Nuclear Division, and Sapirie is manager of the Oak Ridge Operations of the U. S. Atomic Energy Commission.

## NUCLEAR DOLLAR

When you hear the Atomic Energy Commission scientist talking about dollars, the subject isn't necessarily money. A dollar also is a unit of reactivity. One dollar is the maximum amount of reactivity in a reactor due to delayed neutrons; that is neutrons emitted after a fission takes place.

In his report in **Lancet** last July, Dr. Waters found that headaches occurred about equally as frequently in those with visual defects as in those without. The only refractive error which had a statistically significant relationship with the headaches was far vision and then only in the migraine group. He concluded that headaches are seldom caused by defects in visual acuity or muscle imbalance.

Since many patients report that their headaches become less frequent or less severe after getting glasses, it is logical to assume that correcting the refractive error "cured" the headache. The only problem is that many patients report marked improvement in their headaches when they are given plano (non-correcting) glasses.

Tension, migraine, and vascular headaches in general have multiple causes, many of which are related to life stresses. Eye strain may be an aggravating factor but is seldom a primary cause.

## NEWS

Published Bi-Weekly For The  
Employees Of  
**UNION CARBIDE  
CORPORATION**  
NUCLEAR DIVISION

JAMES A. YOUNG ..... Editor



Member

Appalachian  
Industrial  
Editor's  
AssociationInternational Association of  
Business Communicators

## OFFICE

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Telephone 3-7100 or 3-5345

Pack Undisputed  
Volleyball Tops

The Pack won the Volleyball League hands down, losing only one game the entire season. The K-25 Hawks finished in second place, losing only three.

The week of March 11, the Eagles put the Boomerangs down 15-5, 15-4 and 15-13. The Gang defeated the Radphys 15-7, 15-6 and 15-1. The K-25 Hawks clipped the AECOP's Foibles 15-10, 15-3 and 15-8. The Bombers won from the Environmentalists 16-14, then dropped the next two 16-14 and 16-14 in one of the closest duels yet fought. Meanwhile, on Court B, the ORNL Old Men ousted the Y-12 Old Men 15-13, 17-15 and 15-10. The Set Ups out-distanced the Quarks 15-7, 15-3 and 16-14. The Pack put the Gooneybirds down 15-2, 15-13 and 15-4.

In final action the ORNL Old Men belted the Bombers 15-4, 15-7 and 15-6. The Gang galloped past the Environmentalists 15-4 and 15-13, then dropped the last game 16-14. The Set Ups beat the Radphys 15-11, 15-9 and 15-2. The Eagles won two from the Quarks, 15-4 and 15-9 . . . losing game two 15-12. The Pack downed AECOP's Foibles for three to win the crown without a hitch. K-25 Hawks hemmed in the Boomerangs 15-5, 15-2 and 15-0. The Y-12 Old Men ousted the Gooneybirds 15-12, 15-6 . . . losing game three 15-9.

Final standings follow:

Team	W	L
The Pack, ORNL	35	1
K-25 Hawks, K-25	33	3
The Gang, K-25	30	6
Set Ups, ORNL	26	10
ORNL Old Men	22	14
AECOP's Foibles, K-25	16	20
Eagles, Y-12	16	20
Radphys, ORNL	15	21
Quarks, K-25	14	22
Boomerangs, ORNL	14	22
Y-12 Old Men	12	24
Bombers, ORNL	7	29
Environmentalists, ORNL	7	29
Gooneybirds, ORNL	5	31

## BENCH SHOW

The Cumberland Mountain Coon Hunters Association will sponsor a licensed UKC bench show and a wild coon hunt Saturday, March 27, at 2 p.m. in the Catoosa, Tackett Creek managed area.

Y-12 Begins Project  
For Pollution Control

A pollution control project is under way here aimed at improving the quality of water discharged to two streams from the Oak Ridge Y-12 Plant.

The \$140,000 project is being carried out primarily by the Charles Hobson Company, Inc., of Knoxville, under a subcontract totaling \$71,000 awarded by the Nuclear Division of Union Carbide Corporation.

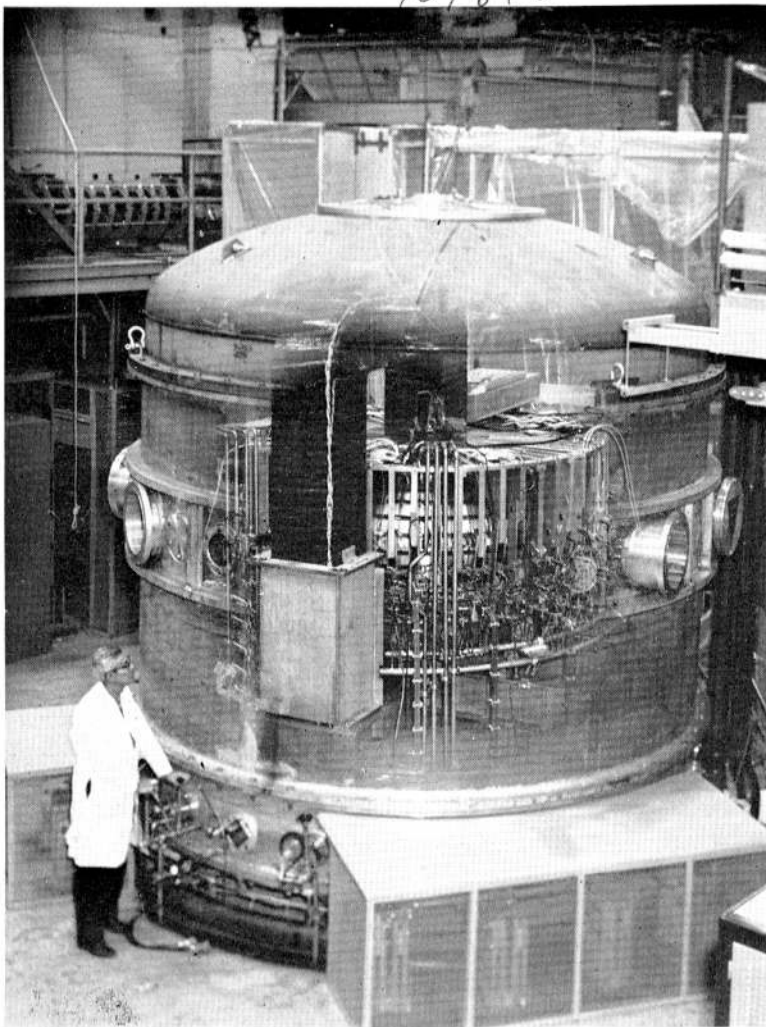
Joseph A. Lenhard, director of the Atomic Energy Commission's Safety and Environmental Control Division here, said a new pond is being constructed at the plant for holding up water primarily from cooling systems to permit skimming of waste oil and debris before discharging into a second pond where additional treatment takes place and chemical residues settle out. The new pond, nine feet deep and measuring 40 by 80 feet, will provide for discharging water from the bottom so that floating oil and debris will remain and can be removed. Water from the ponds is discharged into the east fork of Poplar Creek, which flows through Oak Ridge and eventually into the Clinch River.

Lenhard said the pollution control project also includes improvement of chemical monitoring equipment presently installed at the existing pond, and establishment of a new automatic monitoring station on Bear Creek, near the intersection of Bear Creek and White Wing Roads. The monitoring station will permit improved evaluation of seepage pits near the plant which are used for disposal of chemical residues. Some seepage from the pits eventually enters Bear Creek.

Lenhard said the project has the approval of the Environmental Protection Agency through its predecessor agency, the Federal Water Pollution Control Administration.

If we keep going deeper in the hole, our national emblem may be the mole.





**ALMOST READY**—J. P. Ward, Thermonuclear Division, stands beside the near-complete ORMAK prior to its test which began recently. ORNL scientists hope ORMAK will be a major step toward controlled thermonuclear power and an important new energy source.

## ORMAK

(Continued from Page 2)  
Gritzner, Fabrication Shop superintendent, at Building K-1401, and John Ellis, who was in charge of the overall effort at ORGDP.

Y-12's fabrication assistance was directed by F. V. Tilson, General Machine Shops superintendent, George Bright, Electrical and Electronics Department supervisor, and John Monday, maintenance engineer in the Electric Shop. Maintenance Division craftsmen, under D. G. Hill, Research Services Department superintendent, and H. K. Bailey, General Foreman, assembled the system.

## Playhouse Sets Tryouts For Two More Comedies

The Oak Ridge Playhouse will be looking for six women and seven men, 20 years and older, for its two June productions, "Black Comedy" and "Crawling Arnold." Tryouts will be held at the Playhouse, 7:30 p.m., Monday, April 5.

"Black Comedy" is a farce which takes place in the dark. That is, the events occur in the dark but for the audience the lights are on. The actors make believe that a fuse has blown—and the entire evening becomes a uproariously funny adventure. The cast includes a young sculptor, his fiancée, her hard-to-please father, a spinster neighbor, and art patron and a weirdo electrician.

"Crawling Arnold," Jules Feiffer at his best, centers around Arnold who really crawls.

More information on tryouts may be obtained from Oak Ridge telephone numbers 483-1224, or 483-6193.

## CANOE ORDERS

The Carbide Canoe Club will begin making its Spring order of Gruman canoes. Requests should be made by April 10, to Jim Ford, extension 3-6451.



**WELDING**—J. E. Chance, Research Services, welds a section of the gold-plated stainless steel liner. The liner is made up of 28 similar sections to make two 'halves' and serves the purpose of maintaining a high-purity plasma region to prevent losses due to impurities or excess gas pressure.

## Famed Puppets Present 'Pinocchio' Production

The world-famous Nicolo Marionettes will present "Pinocchio" Wednesday and Thursday, March 31, and April 1, with performances at 4 and 7 p.m. The production will be seen at Robertsville Jr. High School.

The production, written, designed and created by the Nicolo staff, is a favorite story for children of all ages. Although Pinocchio has had the distinction of having been both a legitimate stage play and a screen cartoon, the version to be seen at Oak Ridge will cast Pinocchio in his original form—as a wooden puppet. The marionette performance of the story recaptures all the fantasy and excitement of the beloved folk tale.

Admission for the production is

## Nuclear Power Seminars Continue at Laboratory

The series of seminars dealing with nuclear power continue at Oak Ridge National Laboratory. They are set at 3 p.m. in ORNL's Central Auditorium, Building 4500-N.

Remaining seminars are:

**April 14**—S. I. Auerbach, "Ecological Aspects of Nuclear Plants."

**April 28**—E. P. Epler and M. H. Fontana, "Nuclear Accidents—Probability and Consequences."

**May 12**—W. B. Cottrell, "Nuclear Power Plants — Decreasing the Probability of an Accident."

A panel discussion featuring all previous speakers, moderated by A. M. Weinberg, will climax the seminar, on May 26.

## 30 Co-Oppers

(Continued from Page 1)

**University** — Gregory L. Curry, Kannapolis, N. C.; James T. Dunn, Raleigh, N. C.; Rufus W. Graves, Jr., Greensboro, N. C.; Linwood E. Harris, Winterville, N. C.; Eric T. Smith, Greensboro, N. C.; and William E. Stephenson, Murfreesboro, N. C.

**Southern University** — Karen A. Burgess, Baton Rouge, La.; Joyce M. Nelson, West Monroe, La.; Donald R. Ruth, Baton Rouge, La.; Eafren Tompkins, Bunkie, La.; Edward Thompson, Bunkie, La.; and John Turner, Baton Rouge, La.

**Tennessee State University** — Walter H. Anderson, Michael L. Carrethers, Donald L. Johnson, Felix C. Johnson, Loyd B. Temple, and Dianne L. Williams, all from Nashville, Tenn.

**Tuskegee Institute** — Elizabeth A. Cox, Alcoa, Tenn.; Samuel L. Harris, Birmingham, Ala.; Lamar Jones, Sandersville, Ga.; Jimmie L. McCants, Charleston Heights, S. C.; Vincent W. Robinson, Alcoa, Tenn.; and Robert K. Underwood, Oak Ridge, Tenn.

## 'Maggie's Magic Teapot' Is Next Junior Program

The Oak Ridge Junior Playhouse will present an Irish comedy "Maggie's Magic Teapot" on March 27 and 28 at 1 and 3 p.m. at the Playhouse in Jackson Square.

Art Dworkin, Ernest Early and Chuck Meyer are included in the cast, along with Roger Clarke, Blaine Barton and Rene Nicklow. Director Marguerite Ebert says the play is a fantasy about old Ireland, leprechauns and a pot o' gold. It will appeal to youngsters of all ages, reviewers say.

## Auditor Reeve

(Continued from Page 1)

Reeve, who is a long-time member of the Institute, is an international director, member of the research committee and the committee on audit standards and guidelines, and is chairman of the subcommittee on revision to "statement of the function of internal auditing."

Reeve has been with Union Carbide since 1952. He is a member of the American Institute of Certified Public Accountants, a fellow in the Tennessee Society of CPA's, and a member of the National Association of Accountants.

70 cents per person. More information may be obtained from Pattie Loveday, Oak Ridge telephone 483-5588. The play is sponsored by the Association for Childhood Education.



## UNION CARBIDE CORPORATION

NUCLEAR DIVISION

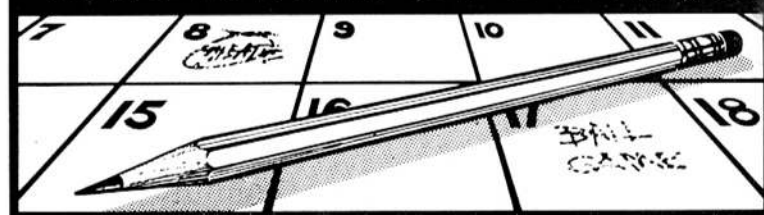
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## CALENDAR OF EVENTS



### TECHNICAL

March 25

American Society of Mechanical Engineers — Joint Meeting of Oak Ridge and East Tennessee Sections: "Student Papers Competition," Deane Hill Country Club. Social hour 6:30, dinner 7:15, and program 8 p.m.

March 26

Heavy Section Steel Technology Program Information Meeting: East Auditorium, Building 4500N, 9 a.m.

April 1

Biomedical Graduate School Student Lecture Series: Title to be announced, D. C. Posteson, Duke University Medical Center. Large Conference Room, Building 9207, 3:30 p.m.

April 4-8

Biology Research Conference. Riverside Motor Lodge, Gatlinburg.

April 8

Health Physics Division Seminar: "Radiation Quality and Effectiveness of Radiation at Low Doses," Albrecht M. Kellerer. East Auditorium, Building 4500N, 10 a.m.

### COMMUNITY

March 26

Oak Ridge Civic Music Association Women's Guild benefit dinner-dance. (Miller's style show, dancing, skits.) Oak Ridge Country Club, 7 p.m. to 1 a.m. Open to public, \$8.50 per person.

March 27

Oak Ridge Civic Music Association presents Jerome Lowenthal, pianist. Oak Ridge High School Auditorium, 8:15 p.m. Admission: \$4; students \$2.

March 27-28

Oak Ridge Junior Playhouse presents "Maggie's Magic Teapot," an Irish fantasy. Oak Ridge Playhouse, 1 and 3 p.m. Admission: \$.75.

March 31-April 1

The Nicolo Marionettes present "Pinocchio," under the sponsorship of the Association for Childhood Education. Performances at 4 and 7 p.m., Robertsville Junior High School. Admission: \$.70.

April 5

Oak Ridge Playhouse tryouts. "Black Comedy" and "Crawling Arnold." 7:30 p.m.



**WEIGHT WATCHER**—A laboratory rat looks like he is doing some investigating of his own weight as he is checked by researchers of the Medical Division of Oak Ridge Associated Universities. (Photo by J. E. Westcott, USAEC).